

AC848

10 TO 800 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

Low Noise Figure	AC848 <4.0 dB
Medium Output Level	+19.3 dBm
High Third Order I.P.	34 dBm
High Performance Thin Film Standard Size TO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	5-900 MHz	10-800 MHz	10-800 MHz
Small Signal Gain (Min.)	13.2 dB	12.5 dB	12.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.4 dB	±0.5 dB
Noise Figure (Max.)	<4.0 dB	4.5 dB	5.0 dB
SWR (Max.) Input/Output	<1.5:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+19.3 dBm	+18.5 dBm	+18.0 dBm
DC Current (Max.)	58.0 mA	62.0 mA	66.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	+12 Volts	+15 Volts
Second Order Harmonic Intercept Point	+50 dBm	+49 dBm
Second Order Two Tone Intercept Point	+44 dBm	+43 dBm
Third Order Two Tone Intercept Point	+33 dBm	+34 dBm

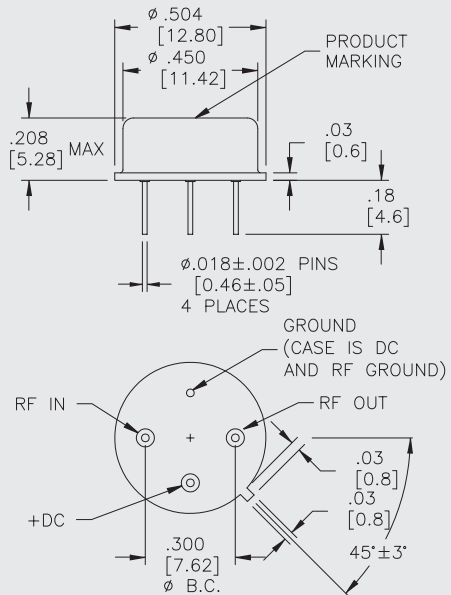
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term Input Power (1 Minute Max.)	50 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+85 °C
Thermal Resistance¹ (θjc)	+56 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+51.0 °C

¹ Thermal resistance is based on total power dissipation.

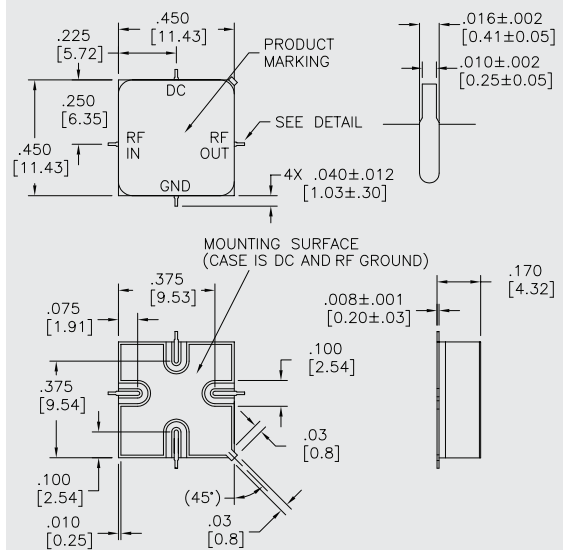
AC848

TO-8 Package for Amplifiers



AS848

SMT0-8 Package for Amplifiers

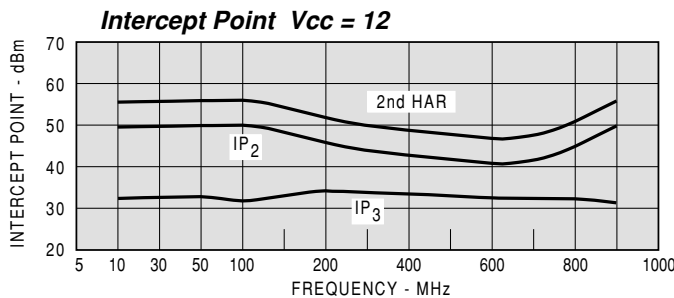
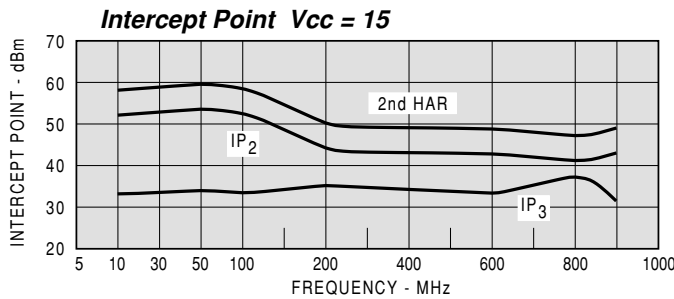
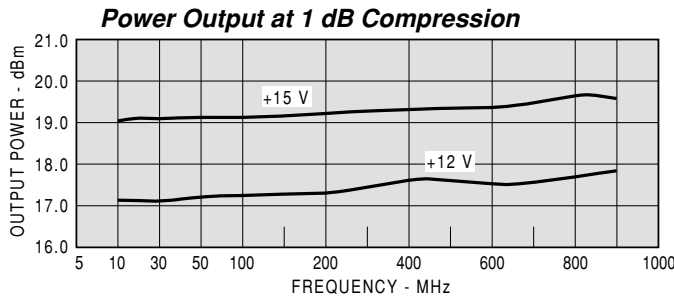
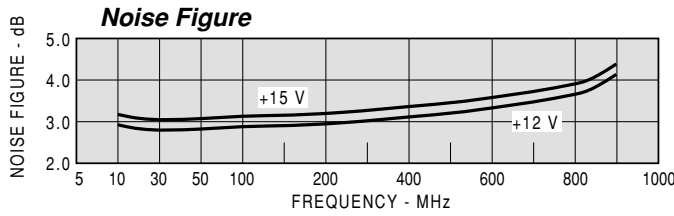
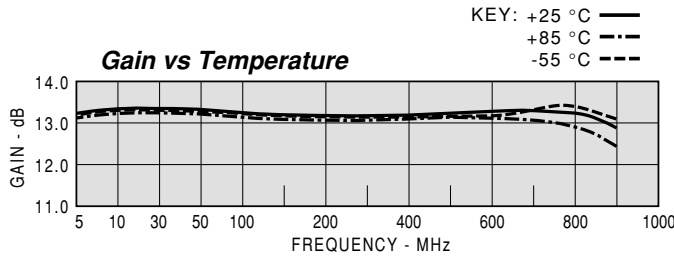


If DC is present on RF input/output, this model requires additional external blocking capacitors.

DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC848		Vcc=+15V					lcc=56.54
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
5	1.38	1.20	13.25	-166		-18.0	
10	1.28	1.12	13.34	-174		-17.4	
30	1.25	1.09	13.35	176	0.84	-17.3	
50	1.25	1.09	13.32	171	0.66	-17.3	
100	1.27	1.10	13.27	161	0.59	-17.3	
200	1.36	1.14	13.19	141	0.54	-17.3	
300	1.48	1.18	13.15	122	0.54	-17.4	
400	1.59	1.24	13.16	102	0.54	-17.4	
500	1.68	1.32	13.19	82	0.56	-17.3	
600	1.71	1.40	13.25	62	0.59	-17.2	
700	1.64	1.45	13.32	40	0.62	-17.1	
800	1.55	1.43	13.28	16	0.68	-17.1	
900	1.54	1.30	12.91	-11	0.73	-17.5	

Model: AC848		LINEAR S-PARAMETERS								lcc=56.54
		Vcc=+15V								S22
FREQ.	S11	S21		S12						
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.16	-116.8	4.59	-165.8	0.126	-170.0	0.09	-83.5		
10	0.12	-142.7	4.65	-174.4	0.135	-175.7	0.06	-125.1		
30	0.11	-162.1	4.65	176.3	0.137	177.0	0.05	-170.2		
50	0.11	-163.1	4.63	171.4	0.137	172.6	0.04	174.1		
100	0.12	-159.4	4.61	160.8	0.137	163.9	0.05	148.4		
200	0.15	-154.2	4.57	141.2	0.137	147.8	0.06	113.8		
300	0.19	-156.2	4.55	121.8	0.136	131.8	0.08	90.7		
400	0.23	-164.6	4.55	102.5	0.136	116.2	0.11	69.5		
500	0.25	-178.2	4.57	82.4	0.137	100.2	0.14	49.5		
600	0.26	164.5	4.60	61.6	0.139	83.8	0.17	28.0		
700	0.24	140.7	4.63	39.6	0.139	66.8	0.18	4.2		
800	0.21	103.7	4.61	15.5	0.139	48.5	0.18	-21.1		
900	0.21	48.0	4.42	-10.6	0.134	28.6	0.13	-49.3		
1000	0.31	-5.4	3.98	-37.6	0.124	9.5	0.05	-72.5		

Model: AC848		Vcc=+12V					lcc=44.72
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
5	1.37	1.20	13.17	-166		-18.0	
10	1.27	1.11	13.27	-174		-17.4	
30	1.24	1.08	13.28	176	0.83	-17.3	
50	1.24	1.08	13.25	171	0.67	-17.3	
100	1.26	1.09	13.19	161	0.59	-17.3	
200	1.36	1.11	13.12	141	0.54	-17.4	
300	1.48	1.16	13.09	122	0.54	-17.4	
400	1.59	1.21	13.10	102	0.55	-17.4	
500	1.69	1.28	13.14	82	0.56	-17.4	
600	1.73	1.34	13.20	61	0.59	-17.3	
700	1.66	1.38	13.26	39	0.63	-17.3	
800	1.57	1.35	13.23	15	0.68	-17.3	
900	1.56	1.21	12.87	-11	0.73	-17.7	

Model: AC848		LINEAR S-PARAMETERS								lcc=44.72
		Vcc=+12V								S22
FREQ.	S11	S21		S12						
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.16	-116.2	4.56	-165.8	0.126	-170.0	0.09	-80.4		
10	0.12	-142.0	4.61	-174.4	0.134	-175.8	0.05	-120.2		
30	0.11	-161.3	4.62	176.4	0.137	176.8	0.04	-166.9		
50	0.11	-162.4	4.60	171.4	0.137	172.7	0.04	175.9		
100	0.12	-158.0	4.57	160.8	0.136	163.7	0.04	151.6		
200	0.15	-152.9	4.53	141.2	0.135	147.1	0.05	117.0		
300	0.19	-155.2	4.51	121.7	0.135	131.0	0.07	94.8		
400	0.23	-163.8	4.52	102.3	0.135	115.0	0.10	73.9		
500	0.26	-177.6	4.54	82.3	0.135	98.7	0.12	54.0		
600	0.27	165.0	4.57	61.4	0.137	82.3	0.14	32.8		
700	0.25	141.0	4.60	39.4	0.136	65.5	0.16	8.5		
800	0.22	104.4	4.58	15.2	0.136	46.7	0.15	-16.1		
900	0.22	49.2	4.40	-11.0	0.130	26.7	0.10	-41.6		
1000	0.31	-4.5	3.95	-37.9	0.121	7.8	0.02	-14.5		